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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,014	07/09/2003	Mutsumi Kimura	116029	8728
25944	7590	05/05/2006	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			SEFER, AHMED N	
			ART UNIT	PAPER NUMBER
			2826	

DATE MAILED: 05/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/615,014	<b>Applicant(s)</b> KIMURA, MUTSUMI	
	<b>Examiner</b> A. Sefer	<b>Art Unit</b> 2826	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 16 February 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,2,4 and 18-20 is/are pending in the application.  
     4a) Of the above claim(s) 18-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. The amendment filed February 16, 2006 has been entered; no new claims have been introduced.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Matsuda et al. ("Matsuda") JP 11-231805.

Matsuda discloses in fig. 1 a P-channel driving thin-film transistor controlling a light-emitting state of a light-emitting element 60, comprising: an active region; a source region 16; and a drain region 15, the source region and the drain region being provided at each side of the active region, respectively; an area of a cross section of the source region being approximately equal to an area of a cross section of the drain region, said cross sections taken along a plane generally perpendicular to a mounting surface of driving thin-film transistor; the source region and the drain region including regions adjacent to the active region, the adjacent regions including lightly doped impurity regions with an impurity concentration less than an impurity concentration of the drain region; and the lightly doped impurity regions being provided in an asymmetrical form in which the lightly doped impurity region 4 in the source region being smaller than the lightly doped impurity region 4 in the drain region or the length, in the

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longitudinal direction of a channel, of the lightly doped impurity region in the drain region being longer than the lightly doped impurity region in the source region (as in claim 2).

As for claim 4, Matsuda discloses a gate electrode 41 provided at a position facing the active region, with an insulating layer provided therebetween, the boundary between each lightly doped impurity region and the active region 3 approximately matching one end of the gate electrode.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tam ("Tam") US PG-Pub 2002/0021293 in view of Kunii et al. ("Kunii") USPN 5,412,493.

Tam discloses in figs. 3 and 5 a P-channel driving thin-film transistor T12 controlling a light-emitting state of a light-emitting element **OLED**, comprising: an active region; a source region; and a drain region, the source region and the drain region being provided at each side of the active region, but lacks anticipation of lightly doped regions.

Kunii discloses in fig. 16 a P-channel (col. 15, lines 3-6) driving thin-film transistor comprising: an active region; a source region 4; and a drain region 5, the source region and the drain region being provided at each side of the active region, respectively; an area of a cross section of the source region being approximately equal to an area of a cross section of the drain region, said cross sections taken along a plane generally perpendicular to a mounting surface of

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driving thin-film transistor; the source region and the drain region including regions adjacent to the active region, the adjacent regions including lightly doped impurity regions with an impurity concentration less than an impurity concentration of the drain region; and the lightly doped impurity regions being provided in an asymmetrical form in which the lightly doped impurity region 63 in the source region being smaller than the lightly doped impurity region 64 in the drain region or the length, in the longitudinal direction of a channel, of the lightly doped impurity region in the drain region being longer than the lightly doped impurity region in the source region (as in claim 2).

Therefore, in view of Kunii's teachings, one having an ordinary skill in the art at the time the invention was made would be motivated to modify Tam's device by incorporating an asymmetrical lightly doped impurity region in the source region smaller than the lightly doped impurity region in the drain region so as to suppress leak current as taught by Kunii.

As for claim 4, Kunii discloses a gate electrode 9 provided at a position facing the active region, with an insulating layer provided therebetween, the boundary between each lightly doped impurity region and the active region approximately matching one end of the gate electrode.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

MAILED 5/1/2006  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2

Any inquiry concerning this communication or earlier communications from the examiner should be directed to A. Sefer whose telephone number is (571) 272-1921.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on (571) 272-1915.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ANS

April 25, 2006